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Nicholas G. Duffield

Duffield 2003-0207

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EXAMINER

MAIS, MARK A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on August 26, 2009 have been fully considered but they are not persuasive.
2. With respect to claim 1, Applicants state that they did not assert that the prior art—Ford et al.'s—"utilization statistics cannot create a rule based on such statistics" [**See applicants' Request for Reconsideration, page 1, paragraph 3**]. Applicants state that the statistics disclosed in Ford et al. are applicable only to individual users (and utilization control is applied only to individual users) and argue, apparently, that the claimed invention is not applicable to individual users [**See applicants' Request for Reconsideration, page 2, paragraphs 2-3**]. Specifically, Applicants argue that the statistics disclosed in Ford et al. are not used to create a set of rules used to specify a QOS treatment. The examiner respectfully disagrees.
3. First, Applicants seem to be arguing that the bandwidth management (i.e. bandwidth reservation and enforcement disclosed in Ford et al.) is different than quality of service (QOS) treatment (i.e., bandwidth reservation mechanism). QOS is a generic term which encompasses several definitions within packet network traffic engineering. In the current Application, the examiner understands that the need for QOS treatments (i.e., bandwidth reservation mechanisms) within a network directly correlates to network congestion

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avoidance/control. The examiner does not interpret QOS treatments as money-transactional (i.e., money-related or e-commerce) or traffic contracts for guaranteed bandwidth (i.e., business/enterprise customers)]. The examiner notes the broadest reasonable interpretation in light of Applicants specification.

4. If Applicants mean a network without congestion avoidance/control mechanisms or without the need for congestion avoidance/control mechanisms, such a network is not claimed. If Applicants mean grade of service (GOS) or class of service (COS), such limitations are not claimed. Finally, if Applicants mean (a) achieved service quality, (b) high bit rate, (c) low latency, or (d) low bit/byte error probabilities, such limitations are not recited in the claims.

5. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., those features discussed in the previous paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. Second, Applicants seem to be arguing that the statistics must create the set of rules to specify a QOS treatment. However, such a limitation is not present in the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.,

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statistics must create the set of rules to specify a QOS treatment) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, the claims, as written, can include statistics or a range of statistics already been taken in the past—for example, those used to come up with probabilistic solutions/rules.

7. With respect to claim 1, Applicants state that since the examiner did not specifically re-assert that a rule is created from the measurements of engine 140, a rule, apparently, must be absent [**See Applicants' Request for Reconsideration, page 2, paragraphs 4-5**]. Applicants further argue that the claimed rule (a) must not be activated when a predetermined condition occurs and/or (b) must not be a fixed rule [**See Applicants' Request for Reconsideration, page 2, paragraph 6 to page 4**]. The examiner respectfully disagrees.

8. First, As noted in the Final Rejection dated June 10, 2009 [**See Final Rejection dated June 10, 2009, page 10, paragraphs #23-24**], Ford discloses that measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics [**Figs. 1, 2, and 8; col. 7, lines 54-59**] and that each traffic class has bandwidth utilization controls [**col. 9, lines 24-27**]. Furthermore, the rule of degrading performance for quarantined users creates the corresponding rule of ensuring appropriate bandwidth usage for non-quarantined users (based on utilization statistics) [**col. 9, lines 27-41**].

9. Said another way, a network has finite resources. In the past, statistics have allowed traffic engineers to determine what the bottlenecks in IP networks were in order to create bandwidth management schemes. Thus, network administrators could throttle back bandwidth hogs to avoid the monetary costs and degradation of network performance associated with such bandwidth hogs [**Ford, col. 3, lines 43-50**]. This was achieved through rules, probabilistic solutions, and congestion avoidance/control mechanisms [bandwidth management]. If one has a rule of degrading the performance for a bandwidth hog, then the corresponding rule is also true—that is, the rule of ensuring appropriate bandwidth for “regular” users (based on utilization statistics).

10. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the rule must not be activated when a predetermined condition occurs) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, the claims, as written, can include statistics or a range of statistics already been taken in the past—for example, those used to come up with probabilistic solutions/rules.

11. Third, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the rule must not be a fixed rule) are not recited in the rejected claim(s). Although

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the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Allowable Subject Matter

12. The following claim drafted by the examiner and considered to distinguish patentably over the art of record in this application is presented to applicant for consideration:

A method of assigning active packets belonging to a class within a first class of service (COS) of active Internet Protocol (IP) traffic in a first network to different QOS treatments in a second network comprising:

identifying said class within said first class COS, wherein said first COS is one of interactive application class, bulk data transfer application class, streaming application class, and transactional application class;

identifying a pre-selected set of IP packet attributes from a plurality of packet attributes, wherein said plurality of attributes are packet size, variance, root mean square, time series, source IP address, source IP port, destination IP address, and destination IP port;

conducting training sessions on training IP traffic in said second network in order to obtain a corpus of data from which to get statistics to create a second COS, wherein

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said second COS is based on packet level characteristics, flow-level statistics, connection-level statistics, intra-flow/connection features, and multi-flow characteristics;

using said second COS to create a QOS rule from a set of QOS rules, wherein QOS rules are IP source address and IP source port pairs from training IP traffic from said second network assigned to a class within said second COS;

assigning said active packets from said first network to a QOS treatment from a set of QOS treatments in said second network, wherein said QOS treatments is the assignment of said QOS rule from a set of QOS rules from said second network to said active packets from said first network.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK MAIS whose telephone number is (571)272-3138.

The examiner can normally be reached on 5am-4pm.

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14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on 571-272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/28/2009

/MARK MAIS/

Examiner, Art Unit 2419

/Pankaj Kumar/

Supervisory Patent Examiner, Art Unit 2419